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NOAA N AND N' SOLID STATE RECORDER

STATEMENT OF WORK

AUGUST 2000

REVISION HISTORY

MOD NO. Contract	DATE	SECTION (S)
	2/00	Baseline
2 NAS5-00118	11/29/01	Delivery Requirement and Delivery Schedule; Deliverables

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SCOPE

This Statement of Work (SOW) defines the tasks to be performed, methods to be used and the deliverable items furnished by the contractor.

HARDWARE PRODUCTION

The contractor (L3 Communications Systems, hereafter called, L3) shall provide the personnel, materials, facilities and equipment necessary for the fabrication, assembly, and testing of one Solid State Recorder (SSR) for the NOAA-NN' spacecraft series. The flight units shall meet the specific requirements of the Tiros-N Unique Interface Specification for the Solid State Recorder (SSR) and the Performance Assurance Requirements (PAR) for the SSR, GSFC S-480-89 *(Tailored).

Project Management

The contractor's project organization shall be under the direction of an appointed local project manager who shall control all project resources, schedule, expenditures and manage all resources required to successfully complete the assigned tasks.

Reviews and Meetings

Reviews

Reviews will be organized by L3 and chaired by GSFC. L3 shall provide all the necessary documentation, support and facilities. The reviews include but are not limited to: Manufacturing Readiness Review (MRR); Test Readiness Reviews (TRR); Pre-Environmental Review; and Pre-Ship Review (PSR).

* NOTE - Tailored version of the Performance Assurance Requirements (PAR) for the SSR (GSFC S-480-89) excludes Appendix C “Deliverable Data and GSFC Response”. If any changes occur to the pre-established production baseline of the SSR, Appendix C shall apply.

Manufacturing Readiness Review (MRR)

The MRR is a formal technical review to be conducted at L3 or GSFC (location to be determined by mutual agreement). This review will take place prior to production of the flight unit

and shall formally review the pre-established production baseline. The objective is to formally review the total system focusing on the system requirements, design and performance assessment, including changes from the NOAA-N N' SSR build. Previous NOAA-N N' SSR design reviews and action item responses shall be summarized.

The MRR shall result in the authorization to L3 to proceed with the manufacturing of the flight unit in accordance with the production baseline established at the end of the review. The MRR shall be chaired by GSFC.

Test Readiness Review (TRR)

The TRR involves the review and analysis of all subsystem/unit level testing prior to the formal acceptance tests.

GSFC shall have the right to appoint one member to the TRR board.

Pre-Environmental Review (PER)

A PER will be conducted prior to the start of environmental testing on the flight system. The primary purpose of this review is to establish the readiness of the system for test and evaluate the environmental test plans.

Pre-Ship Review (PSR)

A PSR will be conducted at the L3 facility for authorizing the shipment of hardware from the L3 facility. Items reviewed may include: test results, declared configuration (i.e., as designed vs. as built), non-conformance, outstanding MRB actions, and the availability of all data in support of a delivery.

Configuration Control Board (CCB)

The CCB is responsible for reviewing, analyzing, obtaining appropriate approval and implementing any change to the configuration.

It will review and decide upon all change notices submitted to it. It will review all data required to permit a complete evaluation of any proposed significant change.

Proposed changes that require either review or approval by the GSFC POES Project Configuration Control Board (CCB) shall be classified as follows:

Class I Change Requires GSFC approval. Any changes that impacts the GSFC specified technical performance requirements, technical interface, or cost and schedule requirements is defined as a Class I change.

Class I changes originated by the contractor and/or a subcontractor shall be documented on POES Configuration Change Requests, Form GSFC 480-39, and shall be submitted to the GSFC POES Project CCB for approval before implementation.

Class II Change Requires GSFC review. A change shall be classified Class II when it does not fall within the definition of a Class I change. Class II changes do not require GSFC concurrence before implementation. Examples of Class II changes are changes in documentation only (e.g., correction of errors, addition of clarifying notes or views) or change in hardware that does not affect any factor listed under Class I changes.

Class II changes originated by the contractor and approved by the contractor's CCB shall be submitted on the contractor's internal change forms for GSFC review.

Meetings

Technical Interchange Meetings (TIMs)

TIMs are technical meetings to be conducted at the L3 site or at GSFC. These meetings will take place as required, starting one month after contract award.

Progress Meetings

Progress meetings shall be held quarterly at the L3 premises or at the GSFC premises. The work status, progress and problems will be reviewed covering contractual, managerial, schedule and technical aspects of the work, as appropriate. Such meetings will be chaired by GSFC's Technical Officer or by his/her duly authorized representative. Progress meetings may be held concurrently with TIMs by mutual agreement.

Schedule Control and Reporting

Schedule

L3 shall develop and deliver a schedule no later than 30 calendar days after contract award. The schedule shall be in Gantt chart form that identifies the baseline schedule, progress to date, and the current forecast. Schedule activities should include things such as: Programmatic Milestones (i.e. MRR), Material Procurement, Fabrication, Assembly, Integration & Test, Environmental Test, and schedule reserves if applicable.

The customer must be able to clearly identify the details listed above for top level and subassembly components to determine monthly accomplishments in accordance with the baseline schedule. After the initial schedule delivery, schedule updates shall be delivered to GSFC on a monthly basis along with the monthly report. The schedule should be in contractor format.

Reporting

The contractor shall submit a monthly progress report describing the progress made during the reporting period. The report is to be prepared on a calendar month basis and submitted within 10 days after the end of each reporting period. The number of copies required is specified in the contract.

The monthly report shall cover the status of the technical, schedule, configuration management and assurance aspects of the contract. It shall be consistent with the detailed requirements for it described in S-480-89 (Tailored) and K10046727.

Special Situation

If, during a reporting cycle, a situation arises that results in a substantial change in schedule, then L3 shall notify the GSFC within 48 hours of becoming aware of the situation. GSFC, on its part, will inform the L3 ASAP of any changes in the project having effect on the L3's planning. L3 shall then reconsider the planning and notify the GSFC of its implications (if any).

TECHNICAL BASELINE

This SOW and the related specification shall be the documents which specify the technical baseline requirements of the subcontractor's assembly.

The formal baseline issues of these documents shall be those which are signed off by L3’S and GSFC's Technical Officer.

Further changes to the defined baseline, having a contractual impact, shall be handled by the formal contract change procedure (CCP).

MANUFACTURING

General Requirements

The manufacturing of the subsystem shall be carried out according to the requirements of this SOW and the Performance Assurance Requirements for the Solid State Recorder, GSFC-S-480-89 (Tailored).
Manufacturing of components and assembly shall be performed in accordance with properly released engineering drawings.

All manufacturing documentation shall follow the established requirements for quality assurance, configuration and information management.

Tooling

L3 shall procure or design and fabricate any tooling require for work.

L3 shall identify special tooling, manufactured or acquired for the purpose of this program.

L3 is responsible for both quality control and maintenance of tooling as to ensure that parts and assemblies are manufactured in compliance with all appropriate standards and that interchange ability is maintained where required.

All tooling shall be subject to periodic inspections according to the L3 P.A. provisions.

Workmanship

Workmanship shall be in accordance with the Performance Assurance Requirements for the Solid State Recorder (GSFC S-480-89) (Tailored).

PWB's

Printed wiring boards shall be manufactured in accordance with the Performance Assurance Requirements for the Solid State Recorder, GSFC S-480-89 (Tailored).

DRAMS (Government Furnished)

L3 shall utilize Government furnished residual stacked DRAMs from the previous NOAA-SSR, Landsat-SSR builds, and DRAMs provided by the Government from an external procurement. DRAMs acceptance and selection for use shall be in accordance with parts control requirements of GSFC S-480-89 Performance Assurance Requirements for the Solid State Recorder (Tailored).

Residual Parts Use

L3 shall utilize any residual inventory from previous NOAA-DTR/SSR builds that are acceptable for use and would provide substantial cost savings to the Government. Residual parts acceptance and selection for use shall be in accordance with parts control requirements of GSFC S-480-89 Performance Assurance Requirements for the Solid State Recorder (Tailored).

TESTING

General Requirements

L3 shall perform testing on the equipment in accordance with approved test procedures before its delivery.

Parts/Materials Testing

Tests shall be performed on all parts/materials used in the unit design for which inadequate reliability or qualification data exist.

L3 shall review all parts requirements for current production

availability and shall establish equivalent part replacements as necessary for the same reliability level. These actions, modifications, changes, and replacements shall be approved by the TIROS/NOAA contract Technical Officer prior to implementation.

The tests will be conducted in accordance with the Product Assurance Requirements for the Solid State Recorder. Materials shall not be used unless approved by GSFC for use on the project.

Acceptance Testing

L3 shall perform environmental and acceptance testing of all assemblies in accordance with the requirements defined in the equipment specification and relevant applicable documentation. The unit shall be tested at flight acceptance levels.

Test Plans

L3 shall establish and deliver test plans detailing the total test program. Test plans are required to have such a level of detail that, in conjunction with the test reports and requirement specifications, will allow complete traceability from requirements to measured value. Hence, conformance with performance requirements, or otherwise, will be verified via test reports as well.

PRODUCT ASSURANCE

L3 shall establish and maintain a Product Assurance Program complying with ANSI/ASQC Q9004-1994 and all portions of the GSFC Product Assurance Requirements (PAR) for the Solid State Recorder (GSFC S-480-89).

DELIVERABLES

Deliverable documentation and report requirements shall be in accordance with Section F.